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EXAMINER

GU, YU

ART UNIT	PAPER NUMBER
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2617

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08/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/561,457	HIERTZ ET AL.	
	Examiner	Art Unit	
	YU (Andy) GU	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Applicant's amendment, filed on 6/03/2009, has been entered and carefully considered. Claims 1-10 and 14-25 have been amended. Accordingly, claims 1-25 are pending.
2. In light of Applicant's amendment, rejections of claims 1-2, 4-6, 8-9, 17-20, 22-34 and 25 under 35 U.S.C. 112, second paragraph, are withdrawn.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. **Claims 1-16 and 25** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1, as amended, recites the limitation "*thereby establishing reservation*", which is not found in the original specification. The Examiner notes that the instant specification recites "*so establishing reservation*" merely reiterates that the reservation request is established to the "amount of degrees expressed", meaning only that a request has been made. Per Applicant's argument, the amended language of "*thereby establishing a reservation*" implies that the "transmitting" step itself has resulted in the reservation being finalized. Therefore,

Art Unit: 2617

the instant specification fails provide for such. The Examiner submits that claim 1 contains new matter. Claim 25 is rejected on the same ground (s).

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. **Claims 1-4, 8-11, 13 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6404756 B1 Whitehill et al. (hereinafter Whitehill) in view of US 5231634 A Giles et al. (hereinafter Giles), and further in view of US 5734898 A He (hereinafter He).

Regarding **claim 1** (currently amended), Whitehill discloses *a method of decentralized medium access control in a communications network consisting of a plurality of stations, wherein a sending station transmits a reservation request (e.g. Request To Send or RTS) for a future transmission to an intended receiving station (see at least column 6 lines 30-37), the intended receiving station being in a reception range of the sending station (see at least column 6 lines 51-54), the method comprising: transmitting the reservation request (e.g. RTS)signalling reservation information including the duration of the future transmission, thereby defining a time period of the future transmission *n* (see at least column 9 lines 51-61), and, in case of a multi-channel system, further including a frequency or code of the channel of the future transmission, in order to establishing a reservation, and overhearing the reservation request by stations active in the reception range, such that stations other than the intended receiving station store*

Art Unit: 2617

the reservation information locally and defer from medium access during the time period and on the channel of the future transmission (see at least column 5 lines 21-28).

Whitehill clearly discloses that the reservation request (e.g. RTS) includes duration of the transmission (see at least Figure 4a and column 6 lines 51-61).

Whitehill is however silent as to *reservation request signalling reservation information including starting point*. However, in the same field of endeavor, Giles discloses a RTS including the starting point of a future transmission (see at least Giles column 6 lines 37-52, where Giles discloses a start point of transmission e.g. the end of the second “key up” time). It would have been obvious to a person of ordinary skill in the art to incorporate the indication of a transmission starting point as taught by Giles, for the purpose of facilitate efficient signaling.

Whitehill is does not specifically disclose *thereby establishing a reservation*, which according to Applicant (see Applicant’s 6/03/2009 remarks page 10) remarks implies that the transmitting step finalizes the reservation. However, in an analogous field of endeavor, He discloses a communication protocol wherein a request for update (i.e. analogous to the reservation request) is sent to a destination station (e.g. server) by a source station (e.g. client A), wherein the source station proceeds to the next the process (i.e. analogous to finalizing the reservation request) without needing a response message from the destination station (see at least He column 9 lines 42 – 52, see additionally He column 1 lines 36-44, where he discussed the disadvantages of request-acknowledgement protocol). It would have been obvious to a person or ordinary skill in the art at the

Art Unit: 2617

time of the invention to modify Whitehill by removing the CTS message in the reservation creation process, for the purpose of further alleviating traffic congestion on the reservation channel, and thereby improve the reservation creation process.

Regarding **claim 2** (currently amended), Whitehill, Giles and He disclose the limitations as shown in the rejection of claim **1**. Whitehill further discloses:

- *wherein the intended receiving station acknowledges the reservation request by returning an acknowledgement message (e.g. Clear-To-Send or CTS) repeating said reservation information (see at least column 6 lines 51-56 column 9 lines 51-61, where Whitehill discloses a CTS repeating the actual parameters used for the reserved transmission);*
- *and stations other than the intended receiving station active in the reception range for transmissions of the intended receiving station perform the actions of storing the reservation information locally and defer from medium access during the time period and on the channel of the future transmission upon overhearing the acknowledgement message (see at least column 5 lines 21-28 and column 11 lines 26-44).*

Regarding **claim 3** (currently amended), Whitehill, Giles and He disclose the limitations as shown in the rejection of claim **1**. Whitehill does not specifically disclose *wherein the reservation request is transmitted piggy-back to a data packet in a frame or in another signaling frame*. However, Giles discloses a frame format wherein a reservation request (e.g. FC type being RTS) is piggy-backed to a data packet (e.g. data unit) (See at least Giles Figure 1 and column

Art Unit: 2617

4 lines 45-56). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 4** (currently amended), Whitehill, Giles and He disclose the limitations as shown in the rejection of claim **1** and **3**. Whitehill does not specifically disclose *wherein an acknowledgement message is transmitted piggy-back in an acknowledgement frame of the data packet or another data packet.*

However, Giles discloses a frame format wherein a reservation request (e.g. FC type being CTS) is piggy-backed to a data packet (e.g. data unit) (See at least Giles Figure 1 and column 4 lines 45-56). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 8** (currently amended), Whitehill, Giles and He disclose the limitations as shown in the rejection of claim **1**. Whitehill does not specifically disclose the limitations of claim 8. However, Giles discloses a RTS frame where the starting for transmission is defined relatively to a specific point time associated with the reservation request message (see at least Giles column 6 lines 37-52, where Giles discloses a start point of transmission e.g. the end of the second "key up" time). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 9** (currently amended), Whitehill and Giles disclose the limitations as shown in the rejection of claim **1**. Whitehill does not specifically disclose the limitations of claim 9. However, Giles discloses *a specific point in time* (e.g. see Figure 4A, the beginning of second "KEY-UP"), *which serves as*

Art Unit: 2617

reference point for the definition of the starting time of the future transmission, is defined relatively to the beginning of the reservation request message and signalled inside the reservation request message (see at least Giles column 6 lines 37-52). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 10** (currently amended), Whitehill, Giles and He disclose the limitations as shown in the rejection of claim **1** and **2**. Whitehill is silent as to the limitations of **claim 10**. However, Giles discloses *a starting point of the future transmission signaled in the acknowledgement message is defined relative to the beginning or end of the sending time or the beginning or end of the time slot (e.g. see Figure 4A, the beginning of the third "KEY-UP") as a time base of the acknowledgement message and adapting starting point information from the sending station to the time base of the acknowledgement message (see at least Giles column 6 lines 37-52). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.*

Regarding **claim 11** (original), Whitehill, Giles and He disclose the limitations as shown in the rejection of claim **1**. Whitehill further discloses: *wherein collisions of reservation requests are resolved by a collision resolution mechanism (e.g. by having a dedicated reservation channel, see at least column 3 lines 29-36).*

Regarding **claim 13** (original), Whitehill and Giles disclose the limitations as shown in the rejection of claim **1**. Whitehill is silent as to *wherein reservation information of a most recent reservation request replaces an existing reservation if the most recent reservation request has an earlier due time than the existing*

Art Unit: 2617

information. However, it is obvious to a person of ordinary skill in the art that a reservation with an earlier due time requires more immediate attention of the participating stations (e.g. it requires channel resource at an earlier time period than requested by an existing reservation information, which may come in first but request a later due time) then the one with a later due time. Therefore, in order to facilitate quality of service, it would have to been obvious to a person of ordinary skill in the art to modify Whitehill and Gilles to give the reservation with an earlier due time priority over the reservation with a later due time in order to facilitate quality of service.

Regarding **claim 25** (currently amended), Whitehill discloses

- *a station which transmits a reservation request (e.g. Request To Send or RTS) for a future transmission to an intended receiving station, thereby establishing a reservation (see at least column 6 lines 30-37),*
- *the reservation request comprising signalling reservation information including a time period of said future transmission, and, in case of a multi-channel system, frequency or code of the channel of the future transmission (see at least column 9 lines 51-61).*

Whitehill further discloses that the reservation request (e.g. RTS) includes duration of the transmission (see at least Figure 4a and column 6 lines 51-61).

Whitehill is however silent as to *reservation request signalling reservation information including starting point*. However, in the same field of endeavor, Giles discloses a RTS including the starting point of a future transmission (see at least Giles column 6 lines 37-52, where Giles discloses a start point of transmission

Art Unit: 2617

e.g. the end of the second “key up” time). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

7. **Claims 17-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles.

Regarding **claim 17** (currently amended), Whitehill discloses *a communications network consisting of a plurality of stations, comprising:*

- *a sending station which transmits a reservation request for a future transmission (see at least column 6 lines 30-37);*
- *an intended receiving station, being in a reception range (e.g. node B receives from node A, therefore is in a reception range of node A) of the sending station(see at least column 6 lines 51-54), for receiving the reservation request to establish a reservation, wherein the reservation request signaling reservation information includes a time period of the future transmission, and, in case of a multi-channel system, frequency or code of the channel of the future transmission (see at least column 9 lines 51-61);*
- *and stations, other than the intended receiving station, active in the reception range which overhear the reservation request, for storing said reservation information locally and deferring from medium access during the time period and on the channel of the future transmission(see at least column 5 lines 21-28).*

Art Unit: 2617

Whitehill further discloses that the reservation request (e.g. RTS) includes duration of the transmission (see at least Figure 4a and column 6 lines 51-61).

Whitehill is however silent as to *reservation request signalling reservation information including starting point*. However, in the same field of endeavor, Giles discloses a RTS including the starting point of a future transmission (see at least Giles column 6 lines 37-52, where Giles discloses a start point of transmission e.g. the end of the second “key up” time). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 18** (currently amended), Whitehill and Giles disclose the limitations as shown in the rejection of claim **17**. Whitehill further discloses:

- *said intended receiving station acknowledges said reservation request by returning an acknowledgement message(e.g. Clear-To-Send or CTS) repeating the reservation information(see at least column 6 lines 51-56 column 9 lines 51-61, where Whitehill discloses a CTS repeating the actual parameters used for the reserved transmission);*
- *and stations other than the intended receiving station active in the reception range for transmissions of the intended receiving station perform the actions of storing the reservation information locally and defer from medium access during the time period and on the channel of the future transmission upon overhearing the acknowledgement message (see at least column 5 lines 21-28 and column 11 lines 26-44).*

Art Unit: 2617

8. **Claims 5, 6, and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles and He, and further in view of US 6704932 B1 Matsunaga et al. (hereinafter Matsunaga).

Regarding **claim 5** (currently amended), Whitehill, Giles and He disclose the limitations as shown in the rejection of **claim 1**. Whitehill further discloses a scheme that allows prioritized access for the channel (see at least column 17 lines 57-61). Whitehill however does not specifically disclose the limitations of claim 5. However, in a related field of endeavor, Matsunaga discloses a reservation request (e.g. reservation information) includes information (e.g. identifier) on the priority class of a further transmission (see at least Matsunaga column 3 lines 60-67 and column 4 lines 1-20) and allocating band resource to reservation information (e.g. reservation request) with a higher priority over a lower priority one (therefore, the low priority request which may come in first is replaced by the high priority request which may come in second, and thereby delaying the band resource for transmission requested by the lower priority request, see at least Matsunaga column 8 lines 50-67 and column 9 lines 1-8). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Matsunaga to include priority information in the reservation request and use the priority information to facilitate quality of services.

Regarding **claim 6** (currently amended), Whitehill, Giles and He disclose the limitations as shown in the rejection of **claim 1**. Whitehill further discloses a scheme that allows prioritized access for the channel (see at least column 17

Art Unit: 2617

lines 57-61). Whitehill does not specifically disclose the limitations of claim 6. However, in a related field of endeavor, Matsunaga discloses a signaling (e.g. reservation information, analogues to RTS, however, Whitehill teaches repeating in the acknowledgement message e.g. CTS the transmission parameters) includes information (e.g. identifier) on the priority class of a further transmission (see at least Matsunaga column 3 lines 60-67 and column 4 lines 1-20) and allocating band resource to reservation information (e.g. reservation request) with a higher priority over a lower priority one (therefore, the low priority request which may come in first is replaced by the high priority request which may come in second, and thereby delaying the band resource for transmission requested by the lower priority request, see at least Matsunaga column 8 lines 50-67 and column 9 lines 1-8). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Matsunaga to include priority information in the acknowledge message and use the priority information to facilitate quality of services.

Regarding **claim 12** (original), Whitehill, Giles and He disclose the limitations as shown in the rejection of claim **1**. Whitehill is silent as to *wherein a reservation request of shorter duration of transmission replaces an existing reservation of longer duration of transmission*. However, in a related field of endeavor, Matsunaga discloses allocating band resource to reservation request (e.g. reservation information) with a higher priority over a lower priority (see at least Matsunaga column 3 lines 60-67 and column 4 lines 1-20, column 8 lines 50-67 and column 9 lines 1-8), therefore it is obvious to a person of ordinary skill in the

Art Unit: 2617

art that a reservation request with a shorter duration but a high priority will be first treated over (e.g. replacing, in the case where lower priority one comes in before the higher priority one) a reservation request with a longer duration but a lower priority, so as to facilitate quality of services.

9. **Claims 19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles, and further in view of Matsunaga. Regarding **claim 19** (currently amended), Whitehill and Giles disclose the limitations as shown in the rejection of **claim 17**. Whitehill further discloses a scheme that allows prioritized access for the channel (see at least column 17 lines 57-61). Whitehill however does not specifically disclose the limitations of claim 19. However, in a related field of endeavor, Matsunaga discloses a reservation request (e.g. reservation information) includes information (e.g. identifier) on the priority class of a further transmission (see at least Matsunaga column 3 lines 60-67 and column 4 lines 1-20) and allocating band resource to reservation information (e.g. reservation request) with a higher priority over a lower priority one (therefore, the low priority request which may come in first is replaced by the high priority request which may come in second, and thereby delaying the band resource for transmission requested by the lower priority request, see at least Matsunaga column 8 lines 50-67 and column 9 lines 1-8). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Matsunaga to include priority information in the reservation request and use the priority information to facilitate quality of services.

Art Unit: 2617

Regarding **claim 20** (currently amended), Whitehill and Giles disclose the limitations as shown in the rejection of **claim 17**. Whitehill further discloses a scheme that allows prioritized access for the channel (see at least column 17 lines 57-61). Whitehill does not specifically disclose the limitations of claim 20. However, in a related field of endeavor, Matsunaga discloses a signaling (e.g. reservation information, analogues to RTS, however, Whitehill teaches repeating in the acknowledgement message e.g. CTS the transmission parameters) includes information (e.g. identifier) on the priority class of a further transmission (see at least Matsunaga column 3 lines 60-67 and column 4 lines 1-20) and allocating band resource to reservation information (e.g. reservation request) with a higher priority over a lower priority one (therefore, the low priority request which may come in first is replaced by the high priority request which may come in second, and thereby delaying the band resource for transmission requested by the lower priority request, see at least Matsunaga column 8 lines 50-67 and column 9 lines 1-8). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Matsunaga to include priority information in the acknowledge message and use the priority information to facilitate quality of services.

10. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles and He, and further in view of US 5960001 Shuffer et al. (hereinafter Shuffer).

Regarding **claim 7** (currently amended), Whitehill, Giles and He disclose the limitations as shown in the rejection of **claim 1**. Whitehill is silent as to the

Art Unit: 2617

limitations of claim 7. However, in a related filed of endeavor, Shuffer teaches a network terminal can reserves a periodic time slots for periodic transmission by transmitting reservation information (see at least Shuffer Abstract and column 3 lines 20-32, such periodic time slots are thus derived from the reservation information). It would have been obvious to a person for ordinary skill in the art to modify Whitehill and Giles in view of Shuffer in order to facilitate and improve the periodic transmission.

Whitehill further discloses stations active in said reception range overhear said reservation request and other stations than said intended receiving station perform the actions of storing said reservation information locally and defer from medium access during all signalled time periods on all respective channels of the future transmissions(see at least column 5 lines 21-28).

11. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles, and further in view of Shuffer.

Regarding **claim 21** (currently amended), Whitehill and Giles disclose the limitations as shown in the rejection of **claim 17**. Whitehill is silent as to the limitations of claim 21. However, in a related filed of endeavor, Shuffer teaches a network terminal can reserves a periodic time slots for periodic transmission by transmitting reservation information (see at least Shuffer Abstract and column 3 lines 20-32, such periodic time slots are thus derived from the reservation information). It would have been obvious to a person for ordinary skill in the art to modify Whitehill and Giles in view of Shuffer in order to facilitate and improve the periodic transmission.

Art Unit: 2617

Whitehill further discloses stations active in said reception range overhear said reservation request and other stations than said intended receiving station perform the actions of storing said reservation information locally and defer from medium access during all signalled time periods on all respective channels of the future transmissions(see at least column 5 lines 21-28).

12. **Claims 14 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles and He, and further in view of US 5633911 A Han et al. (hereinafter Han).

Regarding **claim 14** (currently amended), Whitehill, Giles and He disclose the limitations as shown in the rejection of **claim 1**. Whitehill is silent as to a *revocation message*, and thus further fails to disclose limitations of claim 14.

However, in a related field of endeavor, Han discloses after requesting a channel for communication, sending a revocation message (e.g. cancellation request) to cancel the reservation (therefore deleting the reservation request) (see at least Han column 2 lines 54-60, column 4 lines 61-66). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Han to include a revocation message on the reservation channel (so other stations can hear and act accordingly, in the manner disclosed by Whitehill) in order to efficiently use the limited channel resource.

Regarding **claim 15** (currently amended), Whitehill, Giles and He disclose the limitations as shown in the rejection of **claim 1**. Whitehill is silent as to a *revocation message*, and thus further fails to disclose limitations of claim 15.

However, in a related field of endeavor, Han discloses after requesting a channel

Art Unit: 2617

for communication, sending a revocation message (e.g. cancellation request) to cancel the reservation (therefore deleting the reservation request), and an acknowledgement (e.g. cancellation confirmation) the revocation message (see at least Han column 2 lines 54-60, column 4 lines 61-66). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Han to include a revocation message acknowledgement on the reservation channel (so other stations can hear and act accordingly, in the manner disclosed by Whitehill) in order to efficiently use the limited channel resource.

13. **Claims 22 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles, and further in view of Han.

Regarding **claim 22** (currently amended), Whitehill and Giles disclose the limitations as shown in the rejection of **claim 17**. Whitehill is silent as to a *revocation message*, and thus further fails to disclose limitations of claim 22.

However, in a related field of endeavor, Han discloses after requesting a channel for communication, sending a revocation message (e.g. cancellation request) to cancel the reservation (therefore deleting the reservation request) (see at least Han column 2 lines 54-60, column 4 lines 61-66). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Han to include a revocation message on the reservation channel (so other stations can hear and act accordingly, in the manner disclosed by Whitehill) in order to efficiently use the limited channel resource.

Regarding **claim 23** (currently amended), Whitehill and Giles disclose the

Art Unit: 2617

limitations as shown in the rejection of **claim 17**. Whitehill is silent as to a *revocation message*, and thus further fails to disclose limitations of claim 23. However, in a related field of endeavor, Han discloses after requesting a channel for communication, sending a revocation message (e.g. cancellation request) to cancel the reservation (therefore deleting the reservation request), and an acknowledgement (e.g. cancellation confirmation) the revocation message (see at least Han column 2 lines 54-60, column 4 lines 61-66). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Han to include a revocation message acknowledgement on the reservation channel (so other stations can hear and act accordingly, in the manner disclosed by Whitehill) in order to efficiently use the limited channel resource.

14. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles and He, and further in view of Applicant's admitted prior art and US 7433691 B1 White (hereinafter White).

15. Regarding **claim 16** (currently amended), Whitehill Giles and He disclose the limitations as shown in the rejection of **claim 1**. Whitehill is silent as to the limitations of claim 16. However, Applicant admits (by acquiescing to official notice presented in the previous Office Action) that it is well known in the art of distributed communication, to broadcast and share information regarding the network operating parameters in order to maintain the ad-hoc state. White discloses such a well known method wherein a station (e.g. node 102) broadcast its locally stored information (e.g. routing table information, analogous to

Art Unit: 2617

reservation information) so that other stations can receive and update the information and make use of it when transmitting (see at least White column 4 lines 27-41). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of a commonly knowledge in the art evidenced by White in order to maintain the network in the absence of a central controller (e.g. an access point).

16. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles, and further in view of Applicant's admitted prior art and White.

Regarding **claim 24** (currently amended), Whitehill and Giles disclose the limitations as shown in the rejection of **claim 17**. Whitehill is silent as to the limitations of claim 24. However, Applicant admits (by acquiescing to official notice presented in the previous Office Action) that it is well known in the art of distributed communication, to broadcast and share information regarding the network operating parameters in order to maintain the ad-hoc state. White discloses such a well known method wherein a station (e.g. node 102) broadcast its locally stored information (e.g. routing table information, analogous to reservation information) so that other stations can receive and update the information and make use of it when transmitting (see at least White column 4 lines 27-41). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of a commonly knowledge in the art evidenced by White in order to maintain the network in the absence of a central controller (e.g. an access point).

Response to Arguments

17. Applicant's arguments with respect to **claim 1** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YU (Andy) GU whose telephone number is (571)270-7233. The examiner can normally be reached on Mon-Thur 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on 5712727922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YU (Andy) GU/
Examiner, Art Unit 2617

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617